

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A heat exchanger having a number of heat transfer surfaces made from aluminum or aluminum compounds to which a plurality of layers have been applied, the first layer of the plurality of layers comprising nanoparticles of a first composition applied to the aluminum or aluminum compounds and providing corrosion resistance to the aluminum or aluminum compounds and the second layer of the plurality of layers comprising nanoparticles of a second composition different than said first composition and having hydrophilic properties and a wetting contact angle with water of less than or equal to 40° , wherein the nanoparticles of the first layer or the second layer comprise organic and/or inorganic compounds of boron and/or cerium dissolved and/or dispersed in inorganic and/or organic solvents, and in which each layer thickness amounts to less than $1\text{ }\mu\text{m}$ or equal to $1\text{ }\mu\text{m}$, and in which the total layer thickness amounts to less than $5\text{ }\mu\text{m}$ or equal to $5\text{ }\mu\text{m}$.

Claims 2-4 (Cancelled).

5. (Currently amended) A heat exchanger, having a number of heat transfer surfaces made from metal to which a plurality of layers have been applied, nanoparticles being used for the layers, in which the nanoparticles comprise

nanoparticles of organic and/or inorganic compounds of boron and/or cerium dissolved and/or dispersed in inorganic and/or organic solvents.

Claim 6 (Cancelled).

7. (Previously presented) A process for the surface treatment of heat exchangers as claimed in claim 1, in which a plurality of layers are applied to a number of heat transfer surfaces made from aluminum or aluminum compounds, with nanoparticles being used for the coating.

8. (Previously presented) The process as claimed in claim 7, in which the nanoparticles of organic and/or inorganic compounds of boron and/or cerium dispersed and/or dissolved in inorganic and/or organic solvents are used for the coating.

9. (Previously presented) The process as claimed in claim 7, in which the layers are applied by dipping, flooding or spraying, with the individual layers being applied in direct succession without any intermediate drying.

10. (Previously presented) The process as claimed in claim 7, in which the layers are applied by dipping, flooding or spraying, with the individual layers being applied in separate treatment steps in each case with intermediate drying.

11. (New) The heat exchanger as claimed in claim 5, in which each layer

thickness amounts to less than 1.5 μm or equal to 1.5 μm .

12. (New) The heat exchanger as claimed in claim 5, in which each layer thickness amounts to less than 1 μm or equal to 1 μm .

13. (New) The heat exchanger as claimed in claim 1, wherein the nanoparticles of the first layer or the second layer do not comprise compounds of boron.

14. (New) A heat exchanger comprising:

a plurality of heat transfer surfaces made from aluminum or aluminum compounds;

a first coating layer on the plurality of heat transfer surfaces having a thickness of less than or equal to 1.5 μm ; and

a second coating layer on the first coating layer having a thickness less than or equal to 1.5 μm ,

wherein,

the first coating layer comprises nanoparticles of a first composition adapted to provide corrosion resistance to the aluminum or aluminum compounds, and

the second coating layer comprises nanoparticles of a second composition different than said first composition and having hydrophilic properties and a wetting contact angle with water of less than or equal to 40°.

15. (New) The heat exchanger as claimed in claim 14, wherein said second

composition comprises cerium.

16. (New) The heat exchanger as claimed in claim 14, wherein said second composition comprises boron.

17. (New) The heat exchanger as claimed in claim 15, wherein said second composition comprises boron.